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VI. Interrogations by the Out-stations of OKW/WNV/Fu.

Authorized persons of the Radio Defense Corps were permitted to interrogate members of spy-rings and resistance movements, but only on technical matters. As technical questions could never be separated from others, and since interrogations of the Security Service were often insufficient, the Radio Defense Corps almost always carried out the rest of the interrogation as well as the technical features, in spite of the difficulties created by the Security Service, and the Secret Field Police. Of course each captured agent was also interrogated by the Security Service and the Secret Field Police. The interrogations covered the following complex of questions:

1. Personal questions
2. Political convictions
3. Military career
4. Why did subject become a spy? Idealistic or material grounds?
5. Who made him sign up?
6. Where was he trained?
7. How was he taken to the training site?
8. Who else took the training?
9. Who were the teachers?
10. In what branches of the Secret Service was he trained?
11. How was he brought to the site of operation?
12. To what persons was he introduced at the first place of operations?
13. What was his organization called?
14. What is the name of the chief of his organization and where does he live?
15. What does he know about mail boxes, couriers, courier points?
16. What members of the organization did he make acquaintance with during his activity as one of its members?

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17. What did these people do in the organization?
18. Did these persons have pseudonyms or not?
19. What pseudonyms did he himself have?
20. How were rendezvous arranged?
21. Where did they take place?
22. Were there authentication signals, and if so, what were they?
23. What was discussed at these rendezvous?
24. When and where was he to make the next rendezvous?
25. Does he believe that the rendezvous will be supervised by members of the organization?
26. What was he taught about the Radio Defense Corps in his training?
27. What did he learn about the Radio Defense Corps in the course of operations?
28. What precautions did he take against the work of the Radio Defense Corps?
29. Had he placed guards or armed persons to watch his site, and who were they?
30. What arms has he in his possession, and what arms stores does he know of?
31. Had he poison with him?
32. Had he alternate sites?
33. Which of these have already been used? Which did he still intend to use?
34. What circle of individuals was informed at each time?
35. Had his organization spies in German civilian or military organizations?
36. What does he know about the murder of Germans, or the kidnapping of Germans?

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37. What does he know about "pick ups", "mail pick ups", and supply dropping operations? Where, when? Ground crew?
38. Who organized these enterprises, and through what radio stations did the arrangements take place?
39. What sabotage had been carried out?
40. Where did the equipment come from to accomplish this?
41. What espionage material is still on hand? Where? Enciphered or in clear text?
42. What special missions had he been given?
43. How was he meant to behave politically, as a member of his organization, especially in regard to being approached for membership in other organizations?
44. In what sets did he receive instruction?
45. What sets does he possess?
46. Where are the sets?
47. Where were the storage batteries charged?
48. How, and through whom did he obtain spare parts, money, food?
49. What experiences had he concerning antennas, frequencies, sets?
50. Does he still possess a signal operating instruction?
51. If not, can he reconstruct it?
52. Does he possess cipher procedures or enciphered texts?
53. What ciphers and codes does he know about?
54. How did he receive his messages, enciphered or open?
55. When, where, through whom did he get them?
56. What precautions had been taken against G-V games being operated?
Were these precautions in the procedure, cipher technique, or text?

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57. Did he give his control station a sign that he was in danger? What sign?
58. Does he feel prepared to work for the Germans?
59. What steps had been taken for an eventual escape?
60. What passes had he? Who gave them, when, where?
61. What did he know about the use of VHF for secret agent transmitters?

Agents who had used VHF agent transmitters were asked the following questions in addition:

1. Who belonged to your team?
2. What do you know about the operations by the H/F transmitters belonging to your team?
3. What was said to you in the course of your training about the possibility of the Germans locating and listening in on VHF traffic?
4. Have you listened to VHF control stations while they worked with other VHF agent transmitters?

VII. Technical execution of G-V games

Insofar as possible the traffic in G-V games was carried out by the operator who had been on the station all along. This was only feasible when the impression obtained that the operator was honestly ready to do his part either through conviction or under pressure of circumstances. The operator could then either go on living freely near his work, and enjoy unrestricted movement (none the less he was shadowed) or he lived under supervision in a building belonging to the Radio Corps, the Security Service, or the Secret Field Police, or he was kept in jail. The operator was put up according to his character and the policy (or perspicacity) of the responsible officials.

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The traffic that ensued was closely watched by the intercept station. In the event that the operator was not working unguarded, a member of the Radio Defense Corps, who had to be a specialist in the traffic in question, supervised the operator's work on the spot. In this manner in case the operator tried anything radical it was possible to take immediate steps. It was carefully checked whether the operator persisted with the same "fist" as before.

A site must be selected for the transmitter not far removed from the previous site, in case a message from the agent to the control station explaining a move could not be sent without arousing suspicion. When the position had been changed without a message of explanation, the antenna installation must remain as much as possible like the previous one, so the control station wouldn't notice any changes in tone or signal strength.

The Radio Defense Corps was responsible for the maintenance of the sending schedule, and the proper sentence structure and enciphering of the messages. Messages given out for transmission by the Reich Security Office (Reichssicherheitsamt) or by military authorities had to be re-written and re-cast on the basis of radio intelligence observation of the traffic, and the technical interrogation of the agent.

In the event that the operator was killed in a shooting fight, or if he were in no condition to collaborate, then, if a G-V game still seemed in order, the operating was taken over by a member of the Radio Defense Corps. He had to imitate the former operator's "fist" with deceptive exactness.

As for the contents of the messages, it was attempted immediately after initiating the G-V game, to betray an actual piece of military information

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in order to be in a better position to give misleading information. It was always to be avoided that the control station should get the impression that there was a particular interest in carrying on the traffic. G-V games were discontinued when the control station asked long difficult questions of no particular interest, or when the control padded the traffic with unimportant news. The control station almost always tried to perpetuate a recognized G-V game by asking questions and transmitting unimportant texts.

VIII. Suggestions for the organization and technique of a Radio Defense Corps

The organization and technique of the German Radio Defense Corps was in general proper. The successful missions accomplished in all countries occupied by Germany, with relatively limited means, are proof enough of this.

The Radio Defense Corps must be an independent organization. Its highest echelon of command should be under an officer who is also in command of the Signal Intelligence Service. He must be able to delegate authority, to shift and exchange equipment, radio sets, motor vehicles, etc. between the Signal Intelligence Service and the Radio Defense Corps. The commanding officer of the reserve battalion must be under the Chief of Signals Intelligence and the senior Radio Defense Officer. In this manner it would be assured that training would be pertinent to actual practise later on.

In Germany the Radio Defense Corps and the Signals Intelligence Service were completely separate organizations. An example of how this worked out was that I had dozens of intercept receivers "V" standing idle in my unit, while some Signal Intelligence Regiments, as it now turns out, were unable to procure any of these sets, which they needed most urgently, despite the great pains they went to.

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There would have been operational advantages in a closer coöperation between Radio Defense Corps and the Signal Intelligence Service, which, without knowing that the Radio Defense Corps was doing the same thing in the same sector, covered the enemy tactical VHF frequencies in the southern part of the Western Front. But nobody was giving these frequencies proper coverage in the northern sector.

The clarification of much radio traffic would have been simpler for both parties, particularly for the Radio Defense Corps anyway, if there had been closer coöperation between the two services.

A complete fusion of Signal Intelligence and Radio Defense Corps however would not be ideal. The Radio Defense Corps is of necessity so different from Signal Intelligence in its techniques that in the event of a fusion one or the other would be at a disadvantage. It is true that the Signal Intelligence Service in the course of its ordinary business can take on the interception and initiate counter-measures against say 10 or 20 agent transmitters; but if hundreds of these should appear, then this would be impossible.

Every country that wants to save blood and equipment in the conduct of a war, must be generous with respect to the means and opportunities it places at the disposal of the Signal Intelligence Service and the Radio Defense Corps. In this respect the German Wehrmacht made mistakes. For example, the Radio Defense Corps OKW was an estimated 2500 men strong. An additional 500 men needed to man mobile D/F installations for the organization operating in the West, would have been adequate to render harmless a secret agent radio organization of the most modern type. But this

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addition to the forces was not approved, because the "combat troops" needed them. Perhaps on account of this the combat troops lost out on the Invasion, and consequently, the war.

In the German Radio Defense Corps the troops assigned to intercept and long-range D/F were sufficient in numbers. Those assigned to close-range D/F however too few. There were about 400 men in all for this assignment. In the West alone, 500 close-range D/F-men would have been needed. These would not have been over-burdened with work all the time, because the demands on the organization were not always equally great. This fact would have to be considered. The Radio Defense Corps must have perquisites and powers which are not even required by the Signal Intelligence Service. One step in this direction was taken in Germany in that every mobile D/F team possessed a true copy of an order from Hitler himself, as authority for carrying out their work. Among other things, this order stated approximately as follows: "Every post camp or station of the Armed Forces is obliged to assist members of the Radio Defense Corps in every way possible. Their mission has "Top Priority"."

The organization of the Analysis Section for Secret Agent Radio Traffic OKW/ONV/Fu. III was sound. Its turnout of "intelligence poop" and "intercept and D/F bulletins" worked out very well. This service can only be rendered by an analysis station that works for the whole Radio Defense Corps.

The department that carried out Fieseler Storch operations did not belong in section Fu. III. The Storch operations should have been handled by the forward control stations or the battalions, in conjunction with

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the Luftwaffe. I believe that the creation of a central office for Storch operations came about only in order to provide a job for a certain Major whose promotion had been accelerated for political reasons. The formation of a Radio Defense Regiment under the OKW was in order, likewise the formation of battalions, which in turn had companies and liaison officers subordinate to them. Operational and administrative control of Radio Defense Corps units must be in the same hands.

The reorganization of Radio Defense Corps units into intercept and long-range D/F units on the one hand, and close-range D/F units on the other, carried out in the last weeks of the war, was completely senseless. The intercept and long-range D/F branches of the Radio Defense Corps are so closely intertwined with the close-range D/F service that a separation into different units works to serious disadvantage.

As a result of new techniques developed by the British in their secret agent radio work during the last months of the war scarcely any eliminations on our part of agent stations followed immediately. This is not to be attributed to the excellence of the new British system, as was announced by the BBC in a broadcast shortly after the end of the war, but rather to the detrimental reorganization of the Radio Defense Corps mentioned above. This reorganization rendered the Radio Defense Corps clumsy. The former flexibility and adaptability were indispensable to an effective countering of the new British system.

Each unit of the Radio Defense Corps must be assigned a particular sector. At present, for instance, a company could be assigned Germany north of the Main River. This company must obviously be permitted to

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set up intercept stations and D/F's in France and Southern Germany. It alone should be responsible for close-range D/F operations within its assigned area.

Technical and criminological processing of eliminations by technical means must not be separated from one another. The Radio Defense Corps should be authorized to work on all criminological questions that have to do with secret transmitters and organizations operating them. By reason of the division of authority between Radio Defense Corps on one hand and Security Service and Secret Field Police on the other, much was missed in the evaluation of technical successes. The Radio Defense Corps must have executive police powers.

IX. Prerequisites for the operation of a G-V Game

A G-V game can only be operated if the following be true:

- a) The traffic must have been studied long enough by Radio Intelligence methods;
- b) Schedules, procedure, and codes and ciphers must be known;
- c) All technical precautions known that the enemy may use to prevent operation of a G-V Game;
- d) The agent is willing to collaborate;
- e) Either the operator must be fully informed about his organization, or the group of people who possess the necessary knowledge of the whole enemy organization must have been captured, and their knowledge extracted for operational use;
- f) The elimination of the secret station has not become known to persons still at large who have the means to notify the control station of this circumstance;

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- g) Too much time must not elapse between elimination and preparation for taking up the G-V game.

X. Organization and Technique of Secret Agent Organizations

Organization and technique of Secret Agent Organizations changed constantly and no one organization resembled another. As I have read a great number of PW interrogation reports in the course of time, I can no longer describe particular organizations from memory. Therefore I will put down only the characteristics of groups of organizations. The following refers to the most important ones:

Guidance consisted of the head of the organization, a secretary, and a few collaborators. The chief of the organization received orders from a headquarters located outside the area of German occupied territory. These headquarters communicated their orders to the organization leaders, subsections and individuals by means of:

- a) Broadcast messages of hidden meaning, such as "Napoleon is Emperor", "The aunt is coming with two children";
- b) Messages from the agent control station;
- c) Couriers from England, and the fact that leading personnel or organizations were picked up and taken to England for conferences and instructions.

The organization chiefs commanded the regional chiefs and specialists for special missions. Regional chiefs commanded the radio operators and special mission operatives in their area. By special missions are meant: Determining drop points; observation of vehicular traffic and transport facilities; observation of results after air attacks; espionage in the

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Luftwaffe, Army and Navy; slipping important personages over the Spanish-French border; tapping of telephone lines; pick ups, mail pick ups, and dropping operations.

By mail pick up, pick up, and dropping operations the following is meant:

Great amounts of espionage material (documents, photographs, etc.) were picked up in mail bags by aircraft. A ground crew belonging to the organization marked off the mail pick-up spot by a special arrangement of lanterns. Besides, aircraft and ground crew communicated by means of signals already agreed upon. The mail bag was fastened to a rope, and the plane cleverly picked it up in flight by means of a hook. In lonely spots, particularly in the south of France, planes landed, took on persons and documents and flew away. Money, food and "PX rations", clothes, sets, replacement parts, arms, and sabotage material were dropped by planes for the organizations. Here also a faultless cooperation between aircraft and ground crew was necessary. In case personnel was dropped by parachute, the ground crew often stood by with a car to take the new arrivals to a hiding place or to a rendezvous.

Every transmitter station had one or more alternate transmitting sites, more or less in its near neighbourhood, which were set up to provide against the possible malfunctioning of the transmitter in operation, as well as to facilitate change of position for the agent.

In some organizations one man was responsible for the whole organization. Every regional chief had at his disposal a staff of spies, "letter couriers", and observers.

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Another group of organizations worked as follows:

Teams were dropped which consisted of a chief and a man to procure the espionage material. The chief encoded the messages, and transmitted the most urgent ones himself over a VHF set to the control station, which was in a plane. His assistant had a HF transmitter. He also could encode, and when for example the VHF communications failed, he took over communication with the HF transmitter. These teams sought out their further collaborators after they arrived at their site. They went to addresses that had been given before they set out on the mission. They operated within the framework of a large organization, but their connection with this organization was relatively tenuous.

All organizations tried different means to protect themselves from being discovered.

a) Security Measures for Radio Stations

Because of the possibility of discovery by technical means, the radio stations are the most endangered links in the chain of an agent organization. For this reason they were particularly strongly secured technically. Change of call-signs, frequency, keys, time schedule for transmissions, and position of the transmitter were carried out. Agreement on transmission schedules and frequency changes was accomplished by means of a special code, when these were not worked out according to pre-arranged plan. Time of actual transmission was kept down to a minimum.

The methods of encrypting messages constantly improved. The enciphering keys would be based on bits of poetry or prose text, for example, which the encipherer had memorized. The best method seemed to be

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that the enciphering be based upon a continuous strip of paper with subtractor numbers on it (one-time encipherment pads). The encipherer cut off the cipher strip for each message after encipherment and destroyed it. In this way he was unable to decipher his own messages, even if he wanted to.

Polish organizations secured themselves against technical elimination most successfully by a special kind of transmitting sequence. When a message was to be transmitted, a whole collection of transmitters spread over all of Warsaw had the same text before them. The transmitters changed around without interrupting the sending of the message, all through the transmission. Long-range D/F's, and close-range D/F vans were irritated for a long time by this practise.

The area surrounding the transmitters was watched by observers, and protected by civilians who almost all belonged to partisan groups. For antennas, cords looking like clothes-line, with enclosed wire were used, for example; or the antennas were stretched across the inside of a room. Hiding places were provided for the sets, and endangered persons had ways of escape prepared for them. Sometimes demolition charges were built into the sets. Persons who thought their capture might endanger the organization frequently tried suicide by taking poison or shooting themselves.

b) Security measures for Transmission of Messages within the Organization

Women, children and priests were often used to deliver messages. This was learned almost always after the act, because such persons were held up by the German road control organizations only if they rendered themselves conspicuously suspicious.

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The messages were not carried directly from the sender to the recipient, but were left with "letter boxes", or intermediate stations. Barkeepers, prisoner aid bureaus, or harmless old people often served as letter boxes. The sender left the message with one of these, and the addressee had it picked up there. The middleman recognized deliverers and fetchers often by special signs and passwords.

c) Security Measures for Rendezvous

Every meeting of two or more members of organizations in line of duty was organized precisely. Certain signs or passwords were decided upon, by which the members of the rendezvous could determine, first, that the other man was the right man, and second, that he was free (not being shadowed). In most cases these rendezvous were watched from an inconspicuous place by some other member of the organization. Captured radio operators therefore almost always tried to be allowed to go to a rendezvous under the inconspicuous supervision of some one from the Gestapo. In the beginning the Gestapo agreed to such proceedings. But at rendezvous of this sort no one was ever "net", because either the radio operator let the others know that he was not free, by a secret sign, or the others, despite all camouflage, recognized the third party as a Gestapo agent. Then the whole organization was soon warned.

d) Security Measures Through Trades and Names.

The organizations and their subsections always bore cover-names. All responsible members of organizations possessed false identification papers, and used false names. These changed from time to time. The leaders carried on their activity in the organization either under cover of their actual business, or with the help of a trade for purposes of concealment. Some

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lived "underground". These had to change their place of dwelling constantly. Those who took them in were more or less aware of their activity.

In Western Europe the agent organizations could be built up on a large basis (assume for instance that as many as 50% of all Frenchmen belonged to some resistance or espionage organization). The reason for this high percentage is to be found in the fact that German propaganda did not represent an adequate counter-weight to the British, American, and even Russian propaganda. Besides, by virtue of the stupid German counter-measures taken against espionage, sabotage, and resistance groups, it was made much easier for the French to form more of such organizations. The Germans created martyrs here and there, but never took really intelligent measures to extirpate secret organizations. Radio operators and other members not quite at the top of the organizations were often not even enemies of the Germans. They worked for sporting reasons and felt themselves heroes in the process. This feeling was kept warm by the open and secret propaganda. It is clear that there were numbers of people in the organizations who worked with them for patriotic reasons, and who, in view of the Gestapo's methods of interrogation, proved to be heroes indeed. But these were exceptions. Since the percentage of men working in secret organizations in France and Belgium was very high, the German Radio Defense Corps had to limit itself to flushing out the leaders and the transmitting stations.

XI. Steps to be taken by the Secret Agent Organizations, which would render

Extirpation difficult by technical Means in the HF Band

If a Radio Defense Corps has at its disposal an extensive quantity of highly developed equipment, and sufficient personnel of superior training,

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it is in a position to eliminate practically any secret transmitter by technical means.

The agent organizations must try to bring it about that the Radio Defense Corps needs such a long time to pick up the transmitter by interception, recognize it for what it is, D/F and eliminate it, that by the time all this is accomplished the transmitter will have finished its mission; or that the transmitter can set up somewhere else before elimination is possible.

On the basis of my experience, I consider the following steps to be effective in the attainment of this end:

In the very nature of things every agent radio channel is different from every other agent channel as to procedure, characteristic quantity of traffic at given times, and peculiarities of traffic. But no net should betray characteristic peculiarities which make it easy to pick that net out from other nets. In no case should a rigid plan be followed. Everything which renders agent radio traffic characteristic as such, or which is built up according to a plan, makes the work of the intercept operator and the analyst easier.

If an agent net or a single channel suddenly and cleverly changed its procedure, it was in spite of this never difficult for our operators to recognize the channel or the net in a short time, often even at once. The reason for this was that characteristic peculiarities (footprints) and the fact that the traffic plan had remained unchanged.

Agent radio traffic must be camouflaged. I maintain that the best camouflage is the following:

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The agent must transmit like a commercial or military operator of the country in which he operates. The control station he communicates with must transmit like a commercial or military transmitter of the country to which it belongs. Both parties must be accustomed to working with each other in this way. The intercept operator of the opposing Radio Defense Corps must not be able to draw any conclusions out of the tuning traffic or message exchange of the two stations in communication with each other which would lead him to suspect that they have anything to do with one another. For instance, the fact that a British commercial transmitter, the control station, and a German military transmitter, the agent station, are working together, can be so concealed by clever management of the traffic between them, that signal intelligence is unable to find it out. The training of the control station operator and the agent must be very good. Only extremely capable personnel can be used. The training of the operators and subsequent devising of procedure can only be accomplished in close cooperation with the Signal Intelligence Service.

The advantages of this type of operations are the following:

- aa) A great number of radio procedures, all different from each other, can be devised;
- bb) No conclusive data can be drawn from long-range D/F any more. For instance, that a British commercial transmitter is in England, and a German military transmitter is in Germany does not furnish any intelligence, if it has not been established that they belong together. Only by an exact survey of all traffic, and by checking over every channel heard and D/F'ed in the area in question, can one make out whether it

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is secret agent traffic or not. The time and effort needed by a Radio Defense Corps to take effective steps against such a transmitter would be enormous.

The German Radio Defense Corps quickly learned by Radio Intelligence procedure and long-range D/F all the agent channels throughout the wide areas occupied by Germany. The Partisans Radio Counter Measures Regiment (Bandenfunk Bekämpfungs Regiment), which did not belong to the Radio Defense Corps, but which worked on the same principles, picked up and long-range D/F'ed about 600 Russian partisan transmitters behind German lines; but there were not enough close-range D/F facilities available to eliminate a sufficient quantity, just as was the case in the West. The Germans had not figured on such an enormous commitment of secret transmitters.

The traffic schedules of agent transmitters must be irregular. The agent must be able to transmit any time of the day or night, in the event that the type of traffic he handles involves this. The prerequisite condition is that the agent find the right frequency for time of day, time of year, and distance, without a lot of tuning traffic in the process. The system used in England could be used again, namely, that in the vicinity of the control stations, transmitters on different frequencies are working continuously so that the agent can pick out a frequency for his purposes without difficulty. The QRX code must not be so simple that the intercept operator can break it without help from the analysis department, which was usually the case.

The close-range teams which have been assigned to work on a transmitter already roughly located by long-range D/F, and whose transmitting schedules

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are not known, must maintain a state of constant readiness. They can no longer, as was previously the case, work on several agent transmitters a day, according to a fixed plan. Besides, the observers of the agent organization would surely notice if close-range D/F teams stay around for long periods of time in the neighbourhood.

Agent and control station transmitters must not be recognizable by their tone. The intercept operators of the Radio Defense Corps always found this very easy. Every trick of concealment used was but an illusion as long as the characteristics tone remained the same. In the future this point must be considered in designing the operating sets.

The agent's transmitting stations must change location often. The positions must be so far apart that the dead zone (skip areas) of the transmitter will be shifted considerably. In this way the close-range D/F teams, who may have gotten a line on the transmitter during one or several periods of traffic from one location, will be forced to begin their work anew. Changes of position were continually being ordered by the control stations, but were not executed often enough.

Agent transmitters must not be set up in isolated buildings, or buildings within a town but off to one side. Agents made a practise of picking out that kind of house, because they could overlook their surroundings easily. This advantage does not counterbalance the disadvantages. One single D/F bearing, shot while driving by, suffices to spot the position beyond question. If the close-range D/F men act intelligently, the agent operator will be eliminated as soon as he has finished transmitting, or in any case, later on by plain clothes men, on the basis of this

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D/F bearing. In cities, with their many back alleys and their great number of inhabitants within a small area, it is much harder to locate the operator. Besides, telephone lines, power lines, and overhead trolley cables make D/F difficult.

I know of a case in which an agent operator worked a remoted transmitter. The transmitter was in one house, and the operator sat in the other. He succeeded in arranging things so that he could disappear in time, with all his papers, when he saw the very close-range D/F man approaching the house in which he had set up the transmitter.

The method used by the Warsaw agents, who sent a message by changing around from one transmitter to another, can only be used when the organization comprises a large number of members. If this method can be used, it makes the work of the Radio Defense Corps extraordinarily difficult.

The Italians used three channels, which attempted to protect themselves from D/F in the following way:

A transmitter was set up on board the battle ship "Vittore Veneto" in the harbor of La Spezia; one near Foggia; and a third on the island of Sardinia. They broadcast the signals on CQ call up on a high output level. By the construction of the messages it could be seen that they were of a very special kind (frequent interlarding of "V's"). The traffic was transmitted on a frequency between high and medium frequencies. It started shortly before 0000, that is to say, at a time when the twilight effect still influenced D/F operations. Morse code signals were sent as modulated W/T, and the transmission was covered over with R/T from another distant transmitter, for purposes of making D/F more difficult. The Italians assumed

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this transmitter arrangement to be impossible to D/F. This was later told me by the responsible officers, such as Col. Terranova of the Comando Supremo, after we had with much technical difficulty D/F'ed the transmitter and found it to be on a battleship.

All verbal and written inquiries sent by the German Radio Defense Corps to the Italian High Command, before beginning D/F operations, received the answer that the Italians had no transmitter with the characteristics described. When I started the close-range D/F operations in La Spezia, the Italians, by order of the Italian Admiral, had me locked up, together with the men I had along to do the job. I knew that we had been shadowed for some time, with difficulty we were freed but could move only within the compound of the German U-Boat base of La Spezia.

We conducted the very close-range D/F from a small motor boat. When we told the Italians results, they said "How was it possible to D/F this transmitter? It is an experimental transmitter. We are experimenting on ways of transmitting without being D/F'ed. May we see what methods and apparatus you used to do this?"

A commission of several staff officers, accompanied by the chief of the forward station OKW/WNV/Fu. Rome, paid us a visit, looked at equipment and D/F sets, and the technique of operation. An Italian officer, whose job was the procurement of signal equipment, (a Dr. Ing.) made the statement: "It is not the equipment that does it, but the excellence of the personnel training."

German authorities assumed that the transmitter was engaged in sending treacherous messages to Russia or the Western Powers, and that they

originated in high places.

XII. Steps to be taken by secret Agent Organization which would render
Extirpation difficult by technical Means in the VHF Band

It is of prime importance to VHF agent radio work to use the shortest possible waves. If the agent organizations had used frequencies above 100 megacycles it would have been impossible for the Radio Defense Corps to conduct a close-range D/F, because of inadequate equipment on hand and because of increased technical difficulties. If frequencies above 300 megacycles had been used, not only close-range D/F but also radio intelligence interception of the traffic would have been almost impossible, regardless of an assumed proper training and good equipment on the part of the Radio Defense Corps. Even if the control station in the aircraft were picked up every time, by dint of most intensive searching, still the locating of the close vicinity of the agent station would take so long, and need so many people to do it, that the success would be practically without meaning. In using such frequencies the control station aircraft must fly at great altitude, in order to be far enough from the agent's transmitter, without interfering with the sending and receiving conditions. The control station must remove itself far from the agent transmitter in order not to betray the approximate location of the agent's transmitter in the event that the plane is D/F'ed.

We never knew whether frequencies above 100 or 300 megacycles were used for agent traffic in Europe. I assume that there were not, for neither Radio Defense Corps nor any similar organization detected any agent traffic on these frequencies or above.

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VHF transmitters must transmit with as little power output as possible. From the Gauss tower near Kassel we heard the airborne control flying over the Zuyder Zee with such great signal strength that the Dutch language of the controller calling the agent "Johannes" sounded off from the earphones of the intercept operator like a small loud-speaker. It is impossible to miss such a transmitter as that. We shot D/F bearings on the control station all the way through Holland on 31 megacycles.

The R/T operators should dispatch their traffic more quickly than they generally did. For example, the agent "Balle" who operated from Tournay, Belgium, did it correctly, while "Johannes" often gave unnecessary bits of information which were much more interesting to the German Radio Defense Corps than they appeared to be to his control.

The control stations of the VHF channels almost always worked on 31 megacycles. This is a mistake, for it makes it easier to monitor the traffic. The same applies to VHF agent transmitting stations as was said of H/F stations with respect to changes of frequency, time schedule, and position of transmitter.

XIII. Interception and D/F of Tactical VHF channels

a) Coöperation with Army Command Posts

Tactical VHF channels were monitored on the side, by my order, although this was not our mission. I did this to show the higher German commanders what successes were possible in intercepting and D/F-ing the tactical VHF channels. I wanted to bring about the monitoring and D/F-ing of these channels on a large scale along the Western Front by the Signals

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Intelligence Service. Due to the disadvantageous developments in the military situation it was no longer possible to monitor and D/F on a large scale although the Army started it after we had proved by the successes we had how very helpful such measures could be. In this field of signal intelligence speed is all important in passing the information obtained to the proper headquarters. Every intercept and D/F team must be commanded by a tactically ^{trained} officer. This officer must have at his disposal direct communications to the higher command staffs. There must not be any central analysis station interposed between.

b) Interception and Long-Range D/F

Experience we had gained in monitoring VHF agent traffic was brought to bear in the tactical VHF interception field. Long-Range D/F's which we set up on the "Kaiserstuhl" (near Altbreisach) and in Kappelrodeck near Freudenstadt, were directed by a "Kommando" transmitter. (D/F command net). If the bearings at these distances were not accurate, they were still sufficient to enable conclusions to be drawn from texts which would have been without value had the texts not been connected with a bearing. Military areas of concentration and troop movements could be figured out in this way.

We assumed that in the Colmar region one or more agent transmitters were working under the guise of tactical stations. We D/F'ed a suspicious station of this sort near the forester's house in the "Boi de Rothlaible" south-east of Colmar, that is, back of our Front. Due to the coincidence of a number of different unfavorable circumstances I could never undertake a close-range D/F operation. The station in question worked in a purely military net of the French troops of the area. Such stations as these can

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only be recognized as agent stations by D/F of all intercepted tactical traffic.

c) Artillery Fire on tactical VHF stations serving tactical ends on the basis of DF

In order to accomplish destruction of tactical VHF transmitting stations by artillery fire directed by D/F, we set up two D/F stations two or three kilometers from the front north and south of Colmar. At the Colmar cemetery, located between the D/F men, stood the D/F command station with three transmitters. We had to be this close to the front in order to secure accurate enough D/F bearings, and so that intercept operators and D/F men could work under the same conditions of reception, that is, that all three positions would hear the same tactical transmitter. The W/T intercept operator passed over the D/F command net to the D/F operators information concerning enemy stations to be D/F'ed. These sent the bearings back to the D/F control intercept operator by W/T, as soon as they took them. He drew out the intersection of the bearings on an artillery grid map. The grid coordinate of the transmitter to be taken under fire by the artillery was reported to the CP of the artillery regiment which was to do the firing, over still another transmitter. We observed the subsequent successful results. Some transmitters were silenced immediately; others assisted in the correction of the German artillery fire by saying, for instance: "I am being fired at, but everything is dropping 20 to 30 meters to the left of me. By means of the third transmitter the D/F control intercept operator had communication with the larger main VHF intercept station of the company, set up on the "Grafernatt", or the "Herzogenhorn".

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XIV. GlossaryAgents

Persons within the boundaries of a foreign power who wear civilian clothes and carry out secret missions. With the aid of radios they maintain contact with a control station, which is stationed in the country for which they are working.

Agent net.

A radio net whose stations are operated by transmitter agents. Every net has a net control station.

Agent control station

Radio station from which directions and information are broadcast to the agent stations belonging to the net, and to whom the agents send their messages.

Agent transmitter

Transmitter used by an agent, namely a small set, adapted to the requirements of the agent's work.

Elimination

Capture of the personnel belonging to an agent station, and confiscation of the apparatus and documents.

Forward control stations, OKW/WNV/Fu.

Radio Defense Corps, Army Signal Corps, Headquarters of the Wehrmacht, was fully represented by staff groups in Western and Southeast Europe, which were called Forward Control Stations.

Out-stations, OKW/WNV/Fd.

These were smaller staffs, subordinate to the forward control stations. If there was no forward control station, the out-station became subordinate directly to chief headquarters.

(Signals Monitoring)

Radio Monitoring

Official designation for the Radio Defense Corps, selected for reasons of security, which towards the war's end divided itself into a Radio Monitoring Regiment, two Radio Monitoring Battalions and a quantity of Radio Monitoring Companies and Platoons.

Belt D/F set

Small D/F set capable of being strapped on under the clothing, good for distances under 400 meters.

G-V Game

Continuation of the traffic as such of an eliminated agent transmitter.

Suit-Case D/F set

D/F set built into a suit-case for purpose of concealment, used in very close-range D/F operations.

Mail Pick-up

Pick-up of agent mail by aircraft

Very close-range

Immediate vicinity of transmitter (Radius of about 400 meters)

Close-Range

Ground wave radius of a transmitter.

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Close-Range command transmitter

Communications transmitter used to direct the operations of a mobile D/F working in the vicinity of an agent transmitter.

Pick-up

Taking up personnel, objects, and mail by aircraft which land in the area occupied by the enemy.

Clandestine transmitter

Unlicensed amateur transmitter

Special Intercept Station

Intercept station of the Radio Defense Corps which constituted an independent unit.

Transmitter seeker devices

Electrically insensitive receivers which can be used to determine the existence of a transmitter of unknown frequency operating within a given area.

Technical elimination

Elimination of an agent station on the basis of D/F bearings

Technical Interrogation

Interrogation consisting only of questions on radio technics

V-man

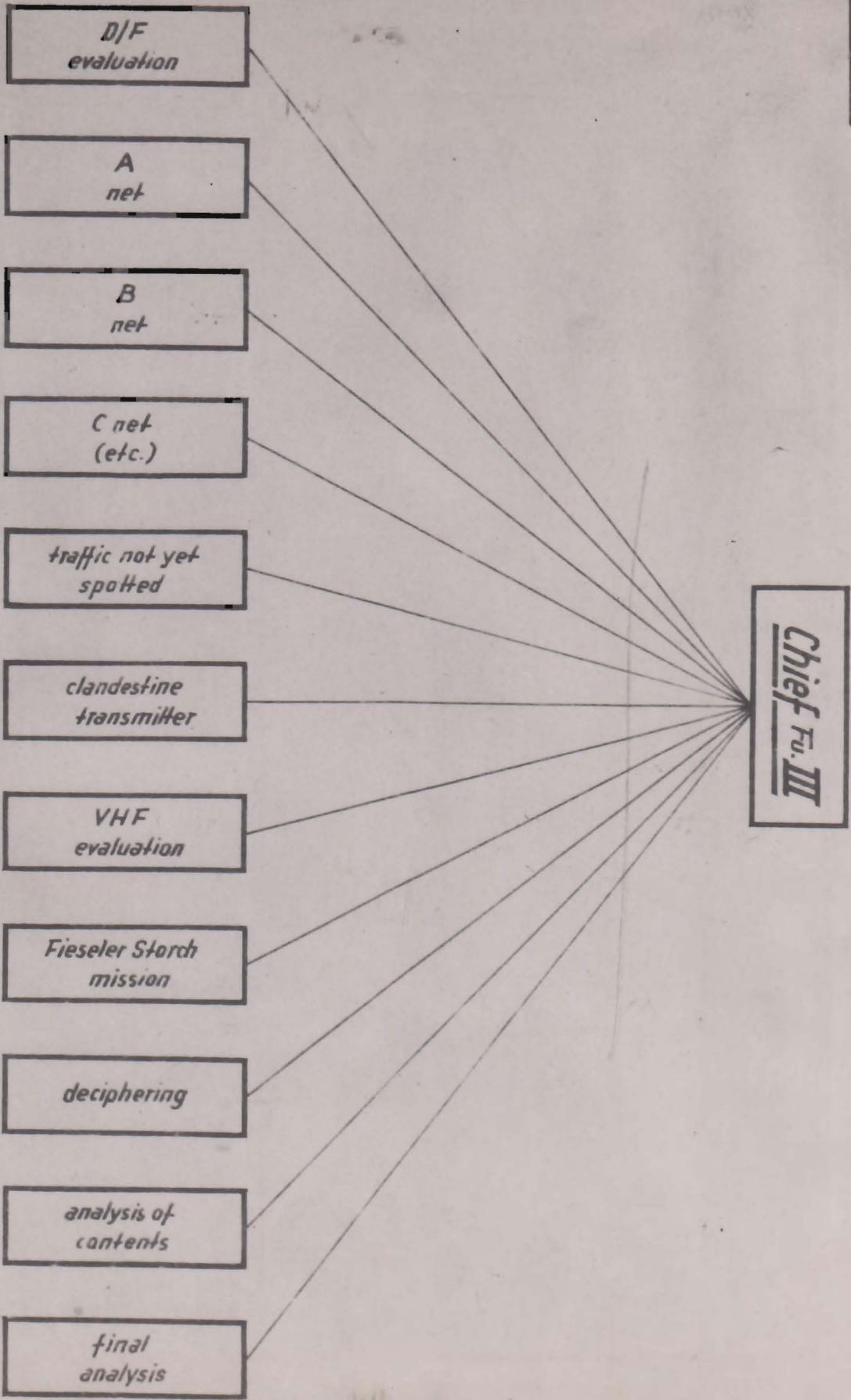
Spy, whose job it is to introduce himself into an organization belonging to the enemy.

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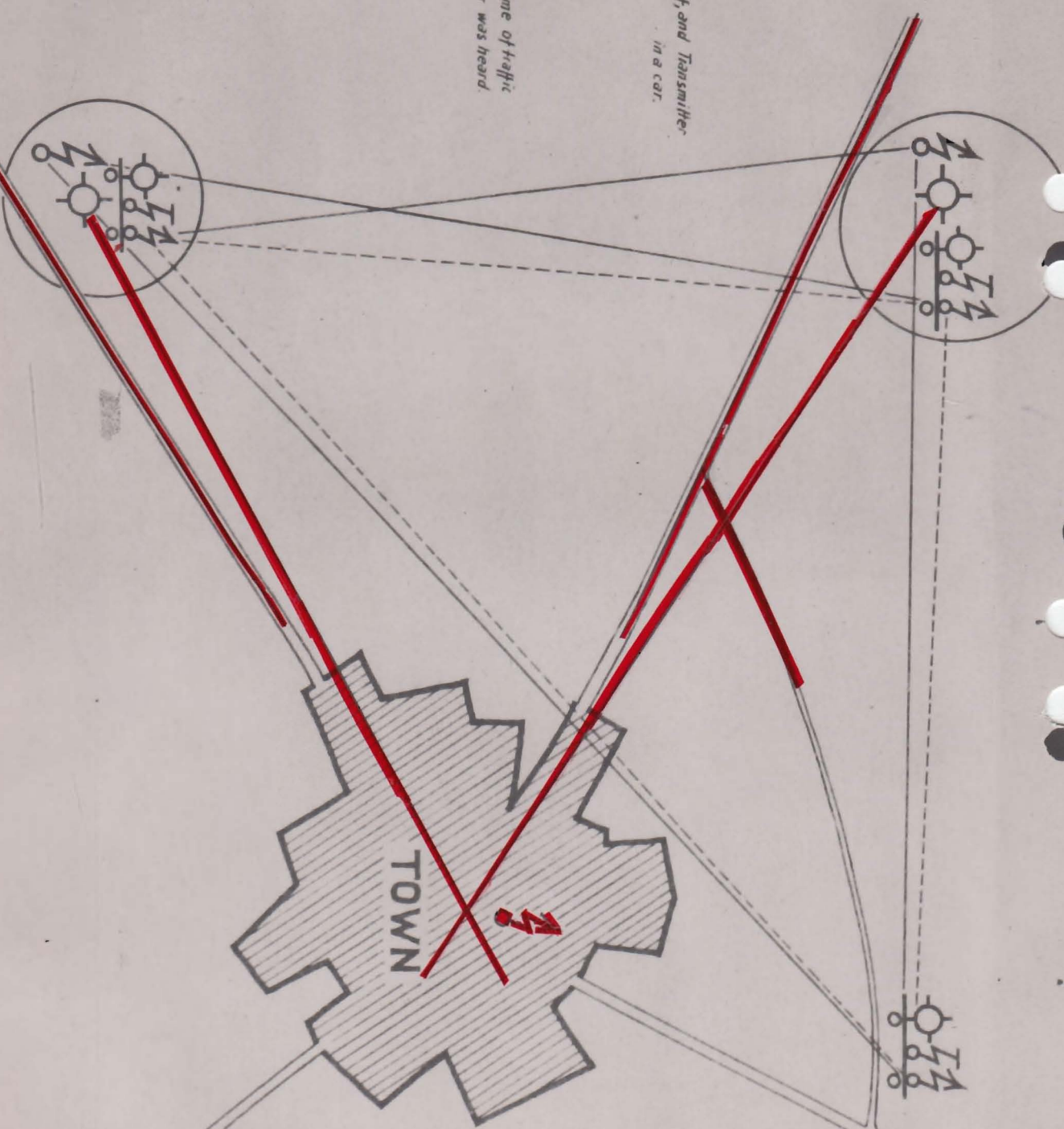
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Annex 4

~ Legend ~


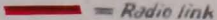






- = DF station "d" (VHF)
- = Transmitter
- = Intercept station, belt d/f, and Transmitter in a car
- = Radio link
- = Radio link
- = Secret station
- = D/F beam
- = Route on which the last time of traffic the clandestine transmitter was heard

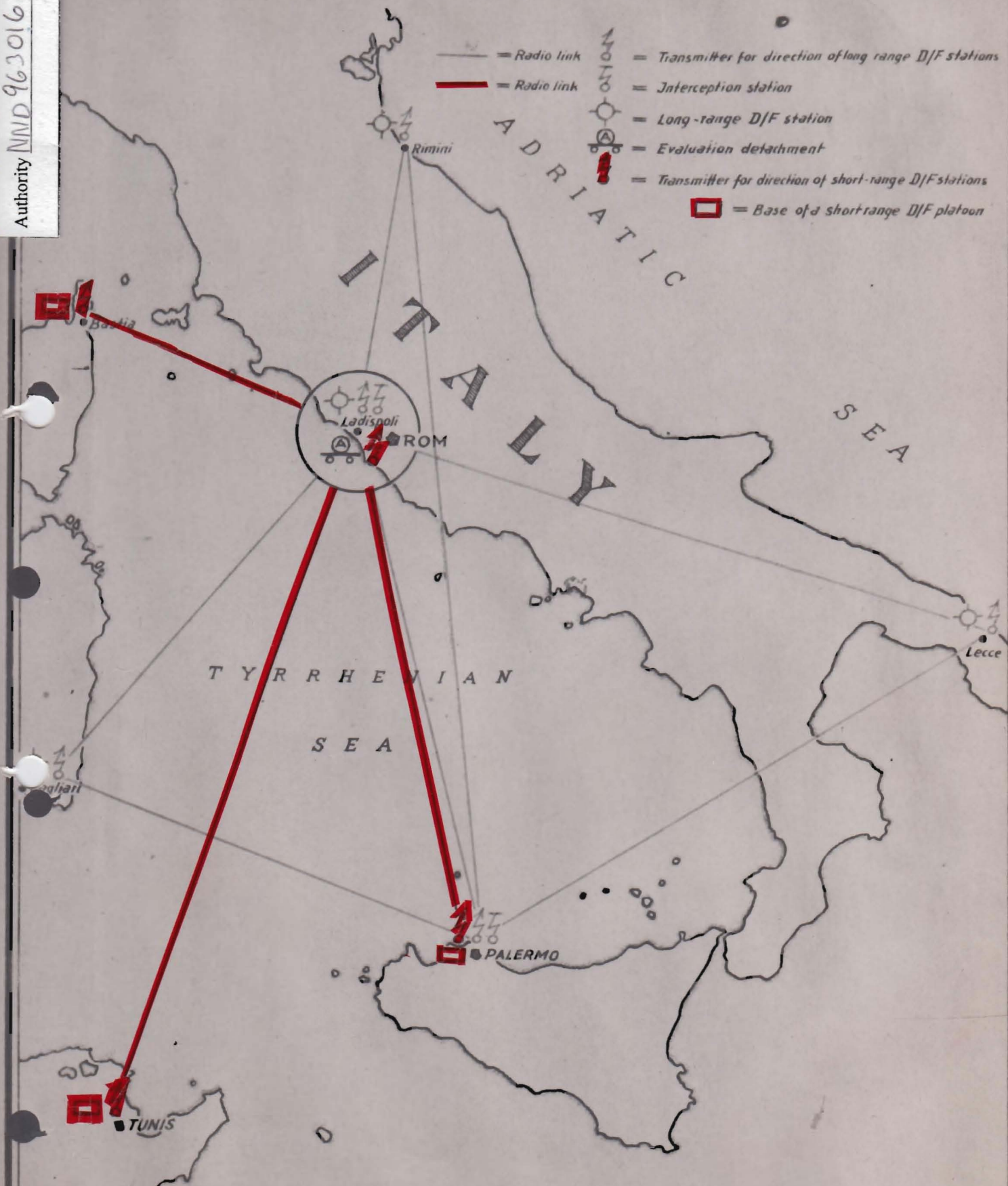


Organisation of Radio Defence Platoon 615 (HF) 1943

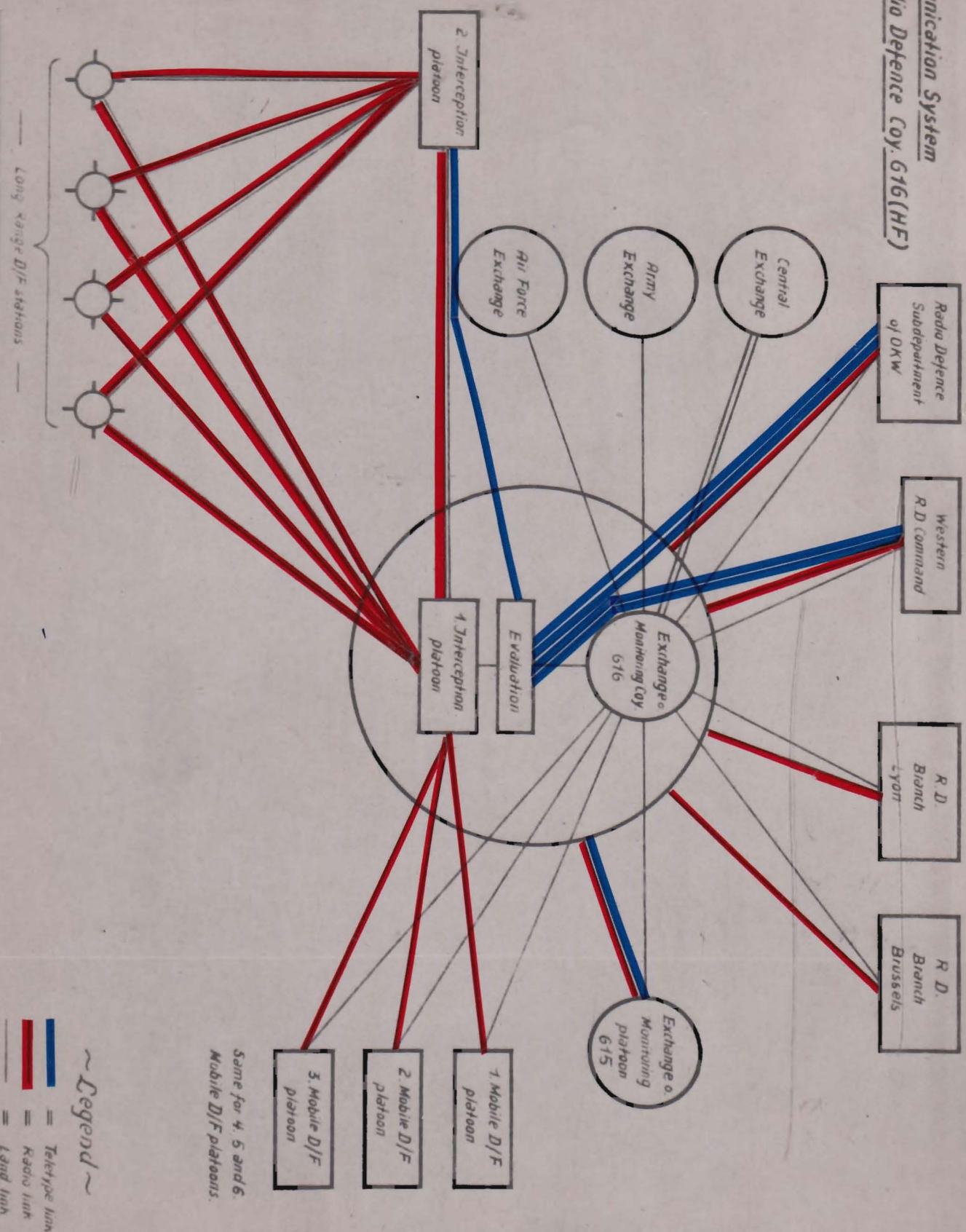
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-  = Radio link
-  = Radio link
-  = Transmitter for direction of long range D/F stations
-  = Interception station
-  = Long-range D/F station
-  = Evaluation detachment
-  = Transmitter for direction of short-range D/F stations
-  = Base of a short-range D/F platoon



Communication System of Radio Defence Coy. 616(HF)



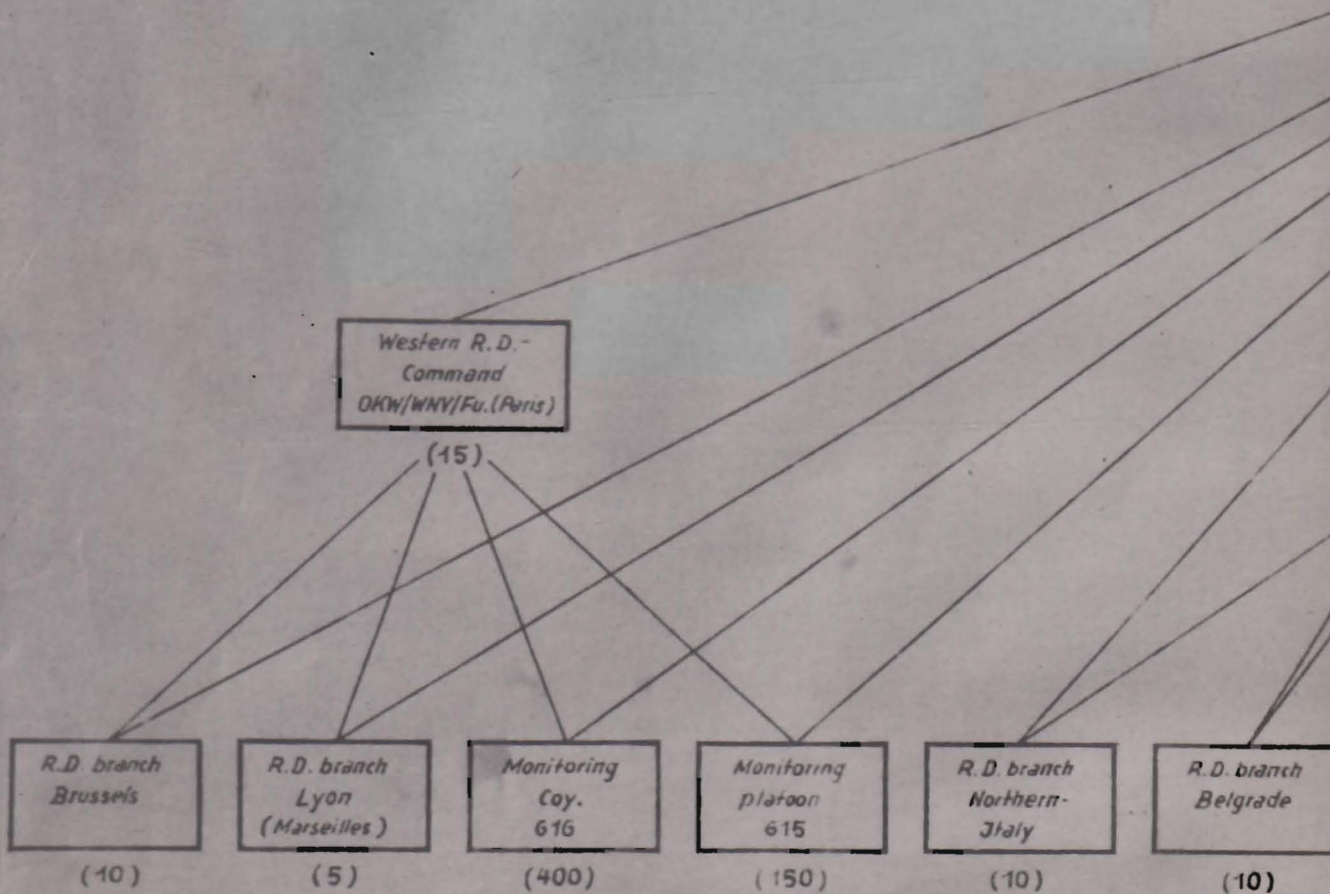
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Annex 1

*Operational chain of command and
organisation of Radio Defence prior
to formation of regiment.
Approximate strength in parantheses.*

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**Chief of Radio Defence subdepartment
of OKW (OKW/WNV/Fu.)**

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**Fu. II:
Supply (equipment
and motor vehicles**

(20)

**Fu. III:
Evaluation section
Operational direction**

(80)

**H. Q.
Signal coy.**

(120)

**West-eastern R.D.
Command
(WNV/Fu. (Wien, Rhen))**
(15)

**R.D. branch
Warsaw**

(10)

**Monitoring
coy. (G.R.F.)
z. B. V. 1**

(400)

**Monitoring
coy. (G.R.F.)
z. B. V. 2**

(350)

**R.D. branch
Oslo**

(15)

**Special
interception st.
Lüchen**

(80)

**Special
interception st.
Zinne**

(150)

**Monitoring coy.
(temporarily sub-
ordinated) 614**

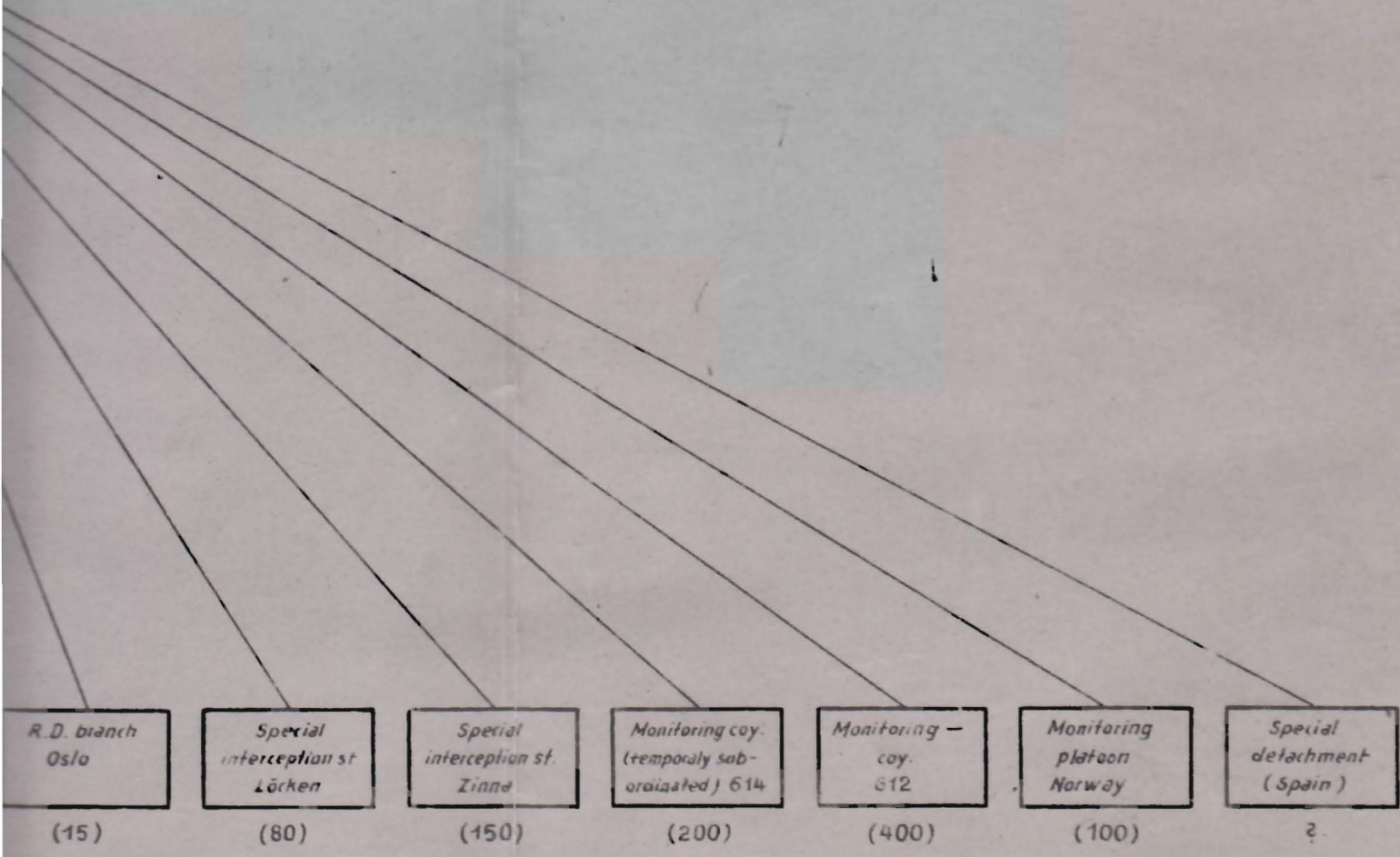
(200)

ment

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in section
direction
(100)

H. Q.
Signal coy.
(120)



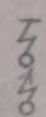


Approximate total strength 2500 men

Organisation of Radio Defence Platoon 615 before




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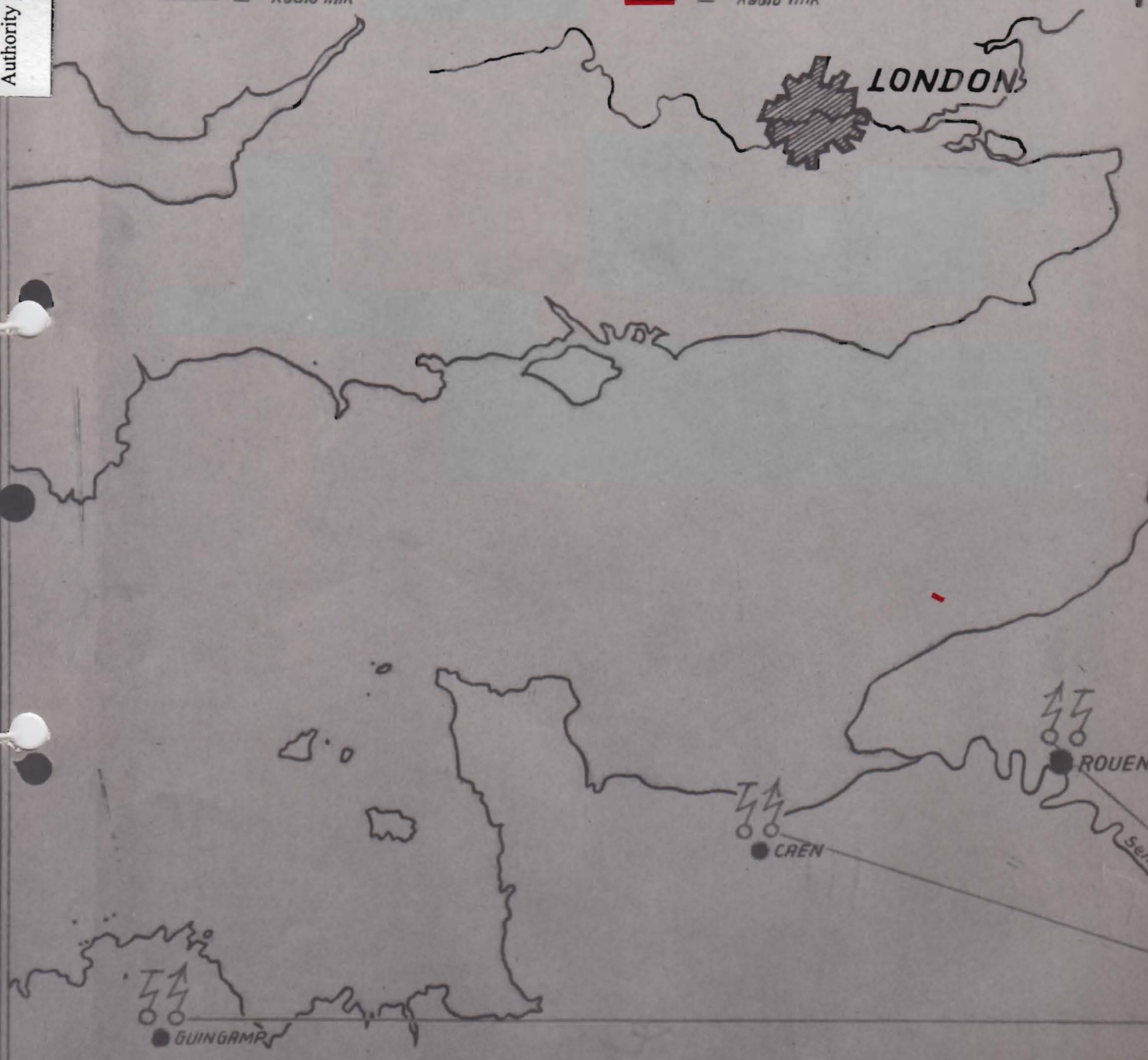
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London

-  = Interception station
-  = Transmitter for direction of interception stations
-  = Radio link



~ Legend ~

-  = Base of a VHF D/F platoon
-  = Transmitter for direction of VHF D/F platoons
-  = Radio link



before D-Day (VHF).

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-  = Evaluation detachment
-  = Night fighter

